

PRESENTATION & PRODUCT

Pumps

Valves

Heat exchangers

Mixers

Filters

ABOUT

A-PF SOLUTIONS

A-PF Solutions offers cutting-edge expertise in the field of **pumps, hygienic valves, heat exchangers, mixers and filters**. With almost 30 years of experience in the industrial sector, we have developed qualities of adaptation, flexibility and ingenuity, in providing an appropriate response to each application.

The objective of A-PF Solutions is to propose **technical solutions** meeting the requirements of industrial customers in Wallonia, the Grand Duchy of Luxembourg and Northern France. Selecting and proposing **quality products**, collaborating with **partners recognized** worldwide while remaining on a human scale, to provide the desired **flexibility and to satisfy** its customers as well as possible is the commitment of A-PF Solutions.

OUR PARTNERS

Our partners have been carefully selected on the basis of demanding **quality** criteria, **flexibility** and **professionalism**, in order to provide **the most suitable solution** for each application.



The idea of bringing together small but productive businesses capable of operating on the market as a valid alternative to large-scale industries came into being in the 1990s with the formation of **the CSF Inox Group**. The group's strength lies in having the flexibility of a small business with the catalogue of a leading player. Over the last 20 years, the CSF Group has acquired **BARDIANI** in Forno Taro, a promising company which manufactures sanitary valves, **OMAC** in Reggio Emilia, whose range of lobe volumetric pumps makes it the only Italian manufacturer of its kind, and most recently, **MBS** in Parma, a company specialized in corrugated tube heat exchangers. Today the group has more than 300 employees with a turnover of over € 60 million.



Bardiani Valvole Spa

Bardiani Valvole Spa is an important Italian business with headquarters in Forno Taro which designs, produces and markets **hygienics valves** with applications in dairy, food & beverage, pharmaceutical and cosmetic from Italy to over 80 different countries around the world. This combination of technology, customization and customer care makes Bardiani Valvole a unique supplier in terms of flexibility in production and the ability to meet customer requests.



CSF Inox Spa

CSF Inox Spa, established in 1970 in Montecchio Emilia, a small town in northern Italy, is today a leading company in both Italy and Europe in the production of **pumps** primarily designed for the food & beverage, dairy, chemical and pharmaceutical industries. The company, synonymous with quality and high specialisation offers the international market an extremely full range of products to meet the needs of numerous applications in these sectors. In fact, CSF Inox offers a series of centrifugal, self-priming, progressive cavity, twin screw, sinusoidal rotor and pneumatic pumps.



MBS s.r.l

MBS srl designs and builds **tube bundle** and **scrapped surface heat exchangers**. It was founded in Parma, Italy in 1995 by a team of entrepreneurs and design engineers with over thirty years' experience. After two years of research and development into the effects of pipe corrugation in the scope of heat exchange, in collaboration with Parma University's Engineering Department, MBS entered the market in a commanding position. The analysis of fluid dynamics allows the selection and design of the most appropriate and efficient heat exchangers for each type of application (food, pharmaceutical and industrial).



OMAC s.r.l.

OMAC S.r.l. is the only Italian company specialized in the production of **volumetric lobe pumps** made from AISI 316L stainless steel and special alloys such as Hastelloy, Monel, Titanium. The current range is the result of years of experience acquired through working with leading companies in the food, chemical, cosmetic and pharmaceutical sectors. Founded at the beginning of the 1960s as a small artisanal business dedicated to the construction of machinery and systems for the local ceramics and food industries, the company developed and specialized in the production of lobe pumps to become the consolidated and internationally established business it is today.



Filtermat Belgium b.v.b.a.

Since its creation in 1985, **Filtermat Belgium bvba** is specialized in the **industrial filtration of liquids** (self-cleaning filters, filterbags, cartridge filters, ...) **and of air** (media, panels, bag filters, compact, Hepa, ...). With its experience, Filtermat is able to bring you the best solution for your application.



CP Pumpen

CP Pumpen, based in Zofingen, Switzerland, was founded in 1948. It has been transformed, modernized and constantly evolving into an internationally active, yet independent company. CP Pumpen manufactures **metal pumps** with INVERSE magnetic drive, PFA or ceramic lined and solid PTFE. To complete the range of magnetically driven pumps, pumps with double mechanical seals for dirty liquids are also available. Recognized for complex applications in the chemical, pharmaceutical and food industries, CP Pumpen remains true to its principles of quality and safety.



THE PHARMACEUTICAL AND BIOTECH INDUSTRY

Comforted by its 20 years of experience in the pharmaceutical process and by **the quality** of its design of its products, **A-PF Solutions** has been directly recognized as a reliable partner in these industries. All our products for the pharmaceutical industry are certified : 3.1, FDA, USP Class VI, Ra and special configurations on request.

PUMPS

➤ Centrifuges (WFI, PW, Pharmaceutical solution)

CS/CSA

Pump body is cast SS 316L.

3.1, Ra<0,5µm, FDA, USP Class VI. Clamps.
Vertical, 135° or horizontal discharge.
Special configurations on request.



Inducer

Optional: to reduce NPSH required from the pump.

Bearing in the pump

1. Motor replacement without disassembling the pump (no CIP/SIP required).
2. Bare shaft pumps can be supplied.
3. Reduced motor bearing wear.

Standardized mechanical seal

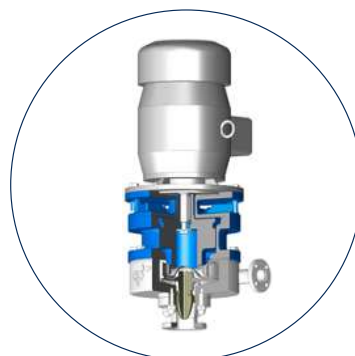
Single, double,
Faces : Tuc - Sic - C - Hastelloy - Ceramic
Gaskets: Epdm, FKM, Silicone,
PTFE, FEP, Chemraz, Kalrez.

Horizontal drain

Clamp or valve.

MKP-Bio (REVERSE Magnetic Drive)

- No mechanical seal, **no leakage**, no risk of penetration of microorganisms
- **100 % self-draining**. Vertical mounting
- **100 % CIP/SIP**
- Parts in contact with product : **surface quality**, Ra ≤ 0.8µm (0.4µm optional), inner edges R3, sloping surfaces > 3°
- **Compact and without dead zones**



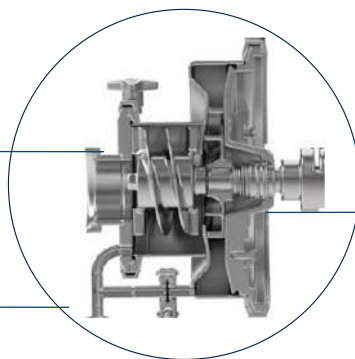
- Low support forces due to the **impeller hydraulically balanced**
- High **material flexibility**
- Modular system consisting of a reduced number of single rooms
- **Ease of assembly**
- Removal of the wheel without tools
- EHEDG, 3A, FDA + EU 193572004 **certified**

➤ Self-priming pumps RCIP (CIP return)

CNH (centrifugal)

316L stainless steel body.

3.1., Ra<0.8 or 0.6 5µm, FDA, USP Class VI.
Clamp connection.



Single Drain Point

Thanks to an optimized design.

Standardized mechanical seal

Single, double,
Faces : Tuc - Sic - C - Hastelloy - Ceramic
Gaskets: Epdm, FKM, Silicone,
PTFE, FEP, Chemraz, Kalrez.

ASH (liquid ring)

Pump body is cast SS 316L, other on request.

3.1, Ra<0,5µm, FDA, USP Class VI. Clamps.
Vertical connections.
Special configurations on request.



Only one drain point

Clamp or valve.

Bearing in the pump

1. Motor replacement without disassembling the pump (no CIP/SIP required).
2. Bare shaft pumps can be supplied.
3. Reduced motor bearing wear.

Standardized mechanical seal

Single, double,
Faces : Tuc - Sic - C - Hastelloy - Ceramic
Gaskets: Epdm, FKM, Silicone,
PTFE, FEP, Chemraz, Kalrez.



➤ Rotary Lobe Pumps

One piece machined pump body, fittings included

Made of 316L stainless steel, with a Fe content < 3%.
3.1, Ra<0.8 or 0.6 µm, FDA, USP Class VI.
Connections: vertical clamps.
Special configurations on request.

Cover and face of lobes are flat

No tightening nut,
zero dead zone.

Gasket of cover

Lobe and shaft are machined in one piece.

No gaskets, no welds.
The cleanest design on the market.

Stainless steel 304 bearing housing

Self-draining mechanical seal.

TUBULAR HEAT EXCHANGERS

➤ PHARMAFLO MLP (WFI, PW, Pharmaceutical Solution,...)

The entire heat exchanger is made of stainless steel.
316 L or 1.4435. Ra < 0.5 µm or 0.4 µm.
Special configurations on request.

Double plate tube sheet

Clamps on product side. Others on request.

Insulation (30 mm mineral wool
covered with a 304
stainless steel sheet)

Support feet.

HYGIENIC AND ASEPTIC VALVES

➤ All our valves are :

- Machined in the mass (**without welding**);
- **Dockweiler connections** for the inch version;
- Roughness < 0,8µm (**0,4** or **0,2 µm** on request);
- **Aseptic version** with steam barrier or membrane;
- Multitude of configurations;
- **Certified**;
- Manual, pneumatic, motorized;
- **Special configurations** on request.



PRODUCTS

> HYGIENIC PUMPS

The advantage of pumps with their own bearing is that the motor can be replaced without having to dismantle the pump!

Available options: Duplex Saf 2507 (1.4410), Hastelloy C276, Sanicro 28 (1.4563), Ra<0.5, 3.1, USP, drain, mobile trolley, control cabinet, scraper plate to guarantee complete emptying of the drum, safety valve, dry running protection. Mechanical seals: a lot of configurations and materials.

1. Centrifugal Single-stage

A. Bearing in the pump and body in cast



CS / CSA
300 m³/h - 100 mcl.
High efficiency, low NPSH.
Optional: Inducer, Certificates,
Ra < 0.5 µm and specials
configurations on request



CSD (aseptic)
300 m³/h - 100 mcl.
High efficiency, low NPSH.
Optional: Inducer, Certificates,
Ra < 0.5 µm and specials
configurations on request



CR (screw impeller)
500 m³/h - 40 mcl.
High efficiency, low NPSH
Special configurations on request.



CSK (flexible coupling)
500 m³/h - 40 mcl.
High efficiency, low NPSH,
Specials configuration on request.



B. Magnetic drive 100% self-draining /leakage free

MKP-Bio
6 60 m³/h - 80 mcl
Ra < 0.8 µm (0.4 µm optional).
Stainless steel 316 - 1.4435
Certifications and specials
configurations on request.

C. Pressed polished plate and cast electropolished



CN
75 m³/h - 60 mcl. 0.8 µm.
Optional: Inducer, Certificates,
Ra < 0.5 µm and specials
configurations on request



**CL (open impeller) /
CLC (closed impeller)**
90 m³/h - 50 mcl. 0.8 µm.



CSM (PN 40 - open impeller)
50 m³/h - 150 mcl
40 bar - 1 à 4 stages.
Specials configurations on request.



CV (PN 16 - closed impeller)
40 m³/h - 150 mcl.
16 bar - 1 à 4 stages
Horizontal and vertical version.

2. Centrifugal Single-stage and Multistage Pumps

A. Bearing in the pump and body in cast

3. Self-priming

A. Liquid ring



A
50 m³/h - 35 mcl.
Body in cast.
Large sizes with elastic coupling.



AS
50 m³/h - 40 mcl.
Bearing in the pump and body
in cast, Special configurations
on request.



ASH
40 m³/h - 35 mcl.
Bearing in the pump and body
in cast. Ra < 0.8 or 0.5 µm,
certificates, Optional drain.
Special configurations
on request.



CNH
60 m³/h - 70 mcl. 0.8 µm
Drain in one point.
Optional : Ra < 0,5 µm
and certificates



CP
6 m³/h - 100 mcl
Ideal for pilot plant,
Low flowrate and high pressure.
Special configuration on request

B. Centrifugal

4. Peripheral impeller pumps

5. Positive displacement pumps

A. Twin screw



TS

150 m³/h - 20 bar,
Ra < 0,8µm, Mechanical
seal : hygienic cartridge
balanced. Body in cast,
Elastic coupling. Special
configurations on request.

B. Rotary lobe



B/BB/BA

STRENGTH: 2 double roller's bearings
per shaft, 1050 Lit/100 rev - 20 bar.
Optional: rectangular inlet, heating
jacket, all types of lobes and sealing,
aseptic version, by-pass, Titanium,
Hastelloy, Monel.



BE monobloc

Stainless steel circumferential
pistons or Acteon, 155 Lit/100
rev - 5 bar, Solid particles up to
19 mm, Various lobe options
and mechanical seals.



BF/F + SC version

70 Lit / 100 rev - 20 bar, Fe <3%,
Bearing housing also in stainless
steel. Body and fittings machined
in one part (no welding), SC
version: Super Clean - rotor and
shaft machined in one piece.



C

600 Lit / 100 rev - 17 bar, body
and fittings machined in one
part (no welding), ease of
maintenance. 316 stainless
steel (1.4435), bearing housing,
optional 304 stainless steel.

C. Progressive Cavity Pumps



MA

200 m³ / h - 24 bar.
Monobloc version or with bearing
or double grease lubrication
bearings with a flexible coupling.
Optional: crushing blades in pump
outlet, mobile trolley, control
cabinet, By pass valve, dry running
protection and t °.



MC

One pre-feeding screw,
Monobloc version or with bearing
or double grease lubrication
bearings with a flexible coupling.
Optional: crushing blades in pump
outlet, mobile trolley, control
cabinet, By pass valve, dry running
protection and t °.



MCR

One pre-feeding screw and mixer,
Monobloc version or with bearing
or double grease lubrication
bearings with a flexible coupling.
Optional: crushing blades in pump
outlet, mobile trolley, control
cabinet, By pass valve, dry running
protection and t °.



MC2 / MC2R

Two pre-feeding screw and in optional
a mixer, monobloc version or with
bearing or double grease lubrication
bearings with a flexible coupling.
Optional: crushing blades in pump
outlet, mobile trolley, control cabinet,
By pass valve, dry running
protection and t °.



MAV

Vertical version ,
20 m³/h 12 bar
Optional: control cabinet, dry
running protection and t °.

D. Sinusoidal displacement pumps



MI

Industrial version.
All options on request.



SN

100 m³/h - 15 bar
Delicate products.
Configurations and materials
depending on the application.



PA / AM

Hygienic or industrial series
100 L/min - 150 bar.
Various versions and
configurations depending on
application and materials.



PAR

Light duty industrial series
55 L/min. - 24 bar
Various versions and
configurations depending on
application and materials.



COMPLETE SYSTEM

Manual installations or semi-automatic
for emptying of barrels, tanks or
containers. Configurations : with
scraper plate, double pneumatic
pistons, articulated arm ...

➤ HYGIENIC VALVES

Single cast valve body is obtained from solid bar with no welds, SS 316 L, Ra<0.8micron (0.4 and 0.2 µm optional), EPDM, FKM, VMQ (silicone), HNBR, PTFE, each valve and control unit are tested, ATEX version, maintenance without specific tools, special configurations and certificates on request.

1. Double Seat Valves



B925

DN 15 to DN 150 – 3/4" to 6", 10 bar.
Full balanced, upper and lower seat lift, aseptic version with steam barrier.
3.1. certificates, Ra, FDA, special configurations available.



B935 tank-bottom

DN 40 to DN 150 – 1/2" to 6", 10 bar.
Full balanced, upper and lower seat lift, aseptic version with steam barrier.
3.1. certificates, Ra, FDA, special configurations available.



B915PM0

1 1/2" to 6", 10 bar. Certified PMO-3A
Full balanced, upper and lower seat lift, aseptic version with steam barrier.
3.1. certificates, Ra, FDA, special configurations available.



BZAW3

DN 25 to DN 150 – 1" to 6", 10 bar.
Aseptic version with steam barrier.
3.1. certificates, Ra, FDA, special configurations available.

2. Single Seat Valves



BBZP

DN 10 to DN 150 – 1/2" to 6", 10 bar.
Aseptic version with steam barrier.
Twin Stop, parabolic shutter, manual, tank-bottom, long stroke, 3.1. certificates, Ra, FDA, special configurations available.



BBWP1 aseptic with membrane

DN 25 to DN 100 – 1" to 6", 10 bar.
Aseptic version with GYLON membrane (single-layer) for better efficiency and a extended lifetime. 3.1. certificates, Ra, FDA, special configurations available.



BBZS1 By-pass

DN 10 to DN 100 – 1/2" to 4", 10 bar.
Aseptic version with steam barrier.
3.1. certificates, Ra, FDA, special configurations available.



BBZS5 pneumatic by-pass

DN 10 to DN 100 – 1/2" to 6", 10 bar.
Aseptic version with steam barrier.
3.1. certificates, Ra, FDA, special configurations available.

3. High pressure



BBZ0

UNIQUE, hygienic 3A certified high pressure valve up to 150 bar.
DN 25 to 100, 1 to 4".
Aseptic version with steam barrier. 3.1. certificates, Ra, FDA, special configurations available.

4. Modulating



BBZK membrane actuator

DN25 to DN100, 1" to 4", 10 bar.
Aseptic version with steam barrier, 3.1. certificates, Ra, FDA, special configurations available.



BBZPM electropneumatic positioner

DN25 to DN100, 1" to 4", 10 bar.
Compact version with electropneumatic positioner. Aseptic version with steam barrier. 3.1. certificates, Ra, FDA, special configurations available.

5. Butterfly



ZVF pneumatic

DN10 to DN150, 1/2" to 6". 10 bar.
WAFFER 4 : intermediate flange version. Optional, with electropneumatic positioner.



VVF Manual

DN10 to DN150, 1/2" to 6". 10 bar.
WAFFER 4 : intermediate flange version. Plastic 5-position handle, stainless steel 4-position handle or millimetric regulation handle.

6. Ball



ZVS Pneumatic
DN10 to DN 100, ½" to 4".
2-way version: 25 to 64 bar and 3-way
(L or T): 16 to 40 bar
(depending on diam.)



VVS Manual
DN10 to DN 100, ½" to 4".
2 and 3-way version L or T,
max. 64 bar.



BBTRD Sight glass
DN25 à DN100,
1" à 4", 10 bar



BBVAR multifunctional housing
DN20 à DN150,
1" à 6", 10 bar

8. Control unit



Giotto Top / J-Giotto Top
Configuration on request ;
One or two sensors ; One, two or three
solenoid valves ; Seat lift Position ;
24 Vdc or ASI BUS ; IP 67



GIOTTO Top Atex / J-GIOTTO Top Atex
Atex version.



Easy Giotto
Support with or without position
detection; One or two
optional M12 sensors.



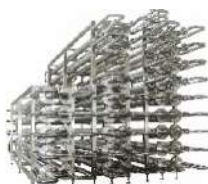
Manifold
Configuration on request.

➤ HEAT EXCHANGERS

1. Tubulaire MIXFLO - Hygienic



MNW monotube
SS 316 on the product side, 304
on the service side;
10 bar, 184°C ; Ra < 0.8 µm;
Special designs on request.



MLC annulare
Manufactured with 3 or 4
corrugated concentric tubes ;
SS 316 on the product side,
304 on the service side;
10 bar, 184°C ; Ra < 0.8 µm ;
Special designs on request.



MLW Multitube
SS 316 on the product side, 304 on
the service side;
10 bar, 184°C ; Ra < 0.8 µm ;
Special designs on request.



MLD Multitube dismantlable
SS 316 on the product side, 304
on the service side;
10 bar, 184°C ; Ra < 0.8 µm ;
Special designs on request.



Skid
Configuration on request.

2. Tubular PHARMAFLO

Double plate tube sheet



MLP

Double tube sheet, Full SS 316 (1.4435 optional) 10 bar, 184°C ; Ra < 0.5 µm (0.4 µm optional) ; Clamp connections ; 30 mm insulation + SS foil ; Support feet ; Complete certification file ; Special constructions on request.

3. Tubulaire CROSSFLO/MUTLIFLO



MLI

SS 316 product side, 304 service side ; 10 bar - 184°C ; Special configurations on request.



MLM U Tube

Smooth U-shaped multitube ; SS 316 product side, 304 service side ; 10 bar - 184°C ; Special configurations on request.



MLU U dismantable

Removable smooth U-tube ; SS 316 product side, 304 service side ; 10 bar - 184°C ; Special configurations on request.

4. Scraped Surface HERCULES



H5, H10 & H15 Horizontal with double outer jacket

0,5 to 1,5 m² of exchange surface ; 19,5 bar, 184°C on the product side ; 10 bar, 184°C on the service side ; Aseptic version in option ; Certificates and special configurations on request.



H30 & H45 Vertical with double inner AND outer jacket

NEW ! Construction with double heating jacket outside AND inside ; Vertical position ; 3 and 4,5 m² of exchange area ; 15 bar, 160°C on the product side and 8 bar, 172°C on the service side ; Aseptic version ; Certificates and special configurations on request.

> MIXERS

1. Liquid / Powder



TV / TMV / TMVS

Max. 70 m³/h, 20 mcl ; Max. 8.000 Kg/h of powder ; Max. 18,5 Kw ; Special configurations on request



DR

Max. 25 m³/h, 25 mcl ; Max. 1500 kg powder/h ; Max. 5,5 Kw ; Special configurations on request.



Skid DR

Max. 5000 Lit., max. 5,5 Kw ; Special configurations on request.



Skid TMV

Max. 3000 Lit., max. 11 Kw ; Special configurations on request.



M

SS 304 ; 3/4 « and 1 1/4 « ; min 2,5 bar steam ; Max. 10 bar ; Accessories on request ;

2. Steam / Water

➤ FILTERS

1. Fluids, automatic self-cleaning



BASKET

Countercurrent cleaning ;
1500 m³/h/unit, 80 µm, min. 2 bar ;
ST 37-2 + epoxy ; Options : Stainless
steel 316L ; Self-cleaning coarse
filter ; Special configurations
on request.



Scraped surface

Cleaning by brushing and/of
scraping ; 1000 m³/h, 50 µm ; 150
Cps ; Stainless steel 316 ;
Special configurations
on request.



Disc

Cleaning by manual or automatic
scraping ; 1000 m³/h, 50 µm ; 600
Cps ; Cast iron, stainless steel
316L, other on request ;
Special configuration on request.



Static sieve-bend

Gravity ; 250 m³/h, 250 µm ;
304 stainless steel or 316L
stainless steel ; Special
configuration on request.



Papier band

Gravity ; 35 m³/h, 10 to 80 µm ;
Mild steel or stainless steel ;
Filter media in PP, Polyester
or viscose.

2. Fluids, manual



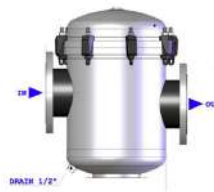
Bag filter

Filter housing SS 304, 316, plastics,
with coatings or special alloys ;
Max. 480 m³/h for multi-pockets ;
0.09 to 6 m² filter area; 6 to 25 bar; 0.5 to
1500 µm ; Special configurations
on request.



Cartridge filter

Filter housing SS 316, other on request ;
Max. 440 m³/h ;
0.1 µm absolute at 1000 µm ;
Special configurations on request.



Basket filter

Filter housing Cast iron or SS, other
on request ; Basket in Stainless steel ;
Single or duplex configuration; Max. DN
200 in std ; 25 to 5000 µm ;
Special configuration on request.



Media/filter panels

Classes G2, G3, G4, F5 ; Flat or pleated ;
Galvanized or plastic frames ;
All dimensions and materials
on request.

4. Air filter bags



Bagfilters

Classes G3, G4, F5, F6, F7, F8, F9 ;
Synthetic fibres or glass fibres ;
All dimensions and materials
on request.



Rigid V-cel bagfilters

Classes F5, F6, F7, F8, F9 ;
All dimensions and materials on
request.



HEPA

Classes H10, H11, H12, H13, H14,
U15 ; All dimensions
and materials on request.



Filter bags

Available in PE, PAC, PPS, Nomex/
Conex, PI/P84, PTFE, GL ;
Max. 260°C ; All dimensions
and materials on request.

5. Air filter cartridges



Filter cartridges

Glass fibre/polyester or cellulose ;
From 0.3 to 20 µm ;
Galvanized or stainless steel ;
All dimensions and materials
on request.

➤ CHEMICAL PROCESS PUMP

1. REVERSE Magnetic drive – Metal

A. Centrifugal



MKP
1.300 m³/h – 145 mcl ; – 100 à + 250°C
(HT : + 350°C) ; Max. 30% solids < 1 mm ;
SS304, 316, Uranus B6, Hastelloy Bor C,
Nickel & Titane DIN EN ISO 2858, 5199
et 15783 ; Full heating jacket and special
configurations on request.



MKTP (Vertical – REVERSE Magnetic drive)
250 m³/h – 100 mcl ; – 20 à + 170°C ;
Max. 30% solids < 1 mm ; Max. length : 4 m ;
DIN EN ISO 5199 et 15783 ;
SS304, 316, Uranus B6, Hastelloy B or C,
Nickel & Titane,
Special configurations on request.

B. Self priming



MKP-S
80 m³/h – 60 mcl ;
– 100 à + 250°C ;
Max. 30% solids < 1 mm ;
DIN EN ISO 2858, 5199 et 15783 ;
Spécial configurations on request.

2. Magnetic Drive – PFA Lined 200°C or solid PTFE

A. Centrifugal



**MKPL – PFA Lined
(vacuum resistant)**
400 m³/h – 90 mcl ; – 20 à + 200°C ;
Max. 10% solids < 1 mm ;
Vacuum resistant ;
DIN EN ISO 2858, 5199 and 15783 ;
Special configurations on request.



MSKP – Solid PTFE
140 m³/h – 90 mcl ;
– 20 à + 150°C ;
Max. 5% solids ;
DIN EN ISO 2858, 5199 et 15783 ;
Special configurations on request.

B. Self priming Centrifugal



**MKPL-S – PFA Lined
(vacuum resistant)**
35 m³/h – 40 mcl ; – 20 à + 150°C ;
Max. 10% solids ;
DIN EN ISO 2858, 5199 and 15783 ;
Special configurations on request.

Liquid ring



MSKS (Solid PTFE)
2,5 m³/h – 34 mcl ;
– 20 à + 80 °C ;
DIN EN ISO 2858, 5199 and 15783 ;
Special configurations on request.

C. Magnetic drive – Peripheral impeller



MKPP – Metal
4 m³/h – 40 mcl ; – 100 à + 200°C ;
DIN EN ISO 5199 et 15783 ;
Clean product ;
Special configuration on request.



MSKPP – Solid PTFE
8 m³/h – 160 mcl ; – 20 à 100°C ;
DIN EN ISO 5199 and 15783 ;
Clean product ;
Special configuration on request.

D. Double Mechanical Seal – Dirty fluids



EB – PFA Lined
400 m³/h – 100 mcl ; – 20 à + 200°C ;
DIN EN ISO 2858 and 5199 ;
Metallic impeller covered with PFA ;
Special configurations on request.

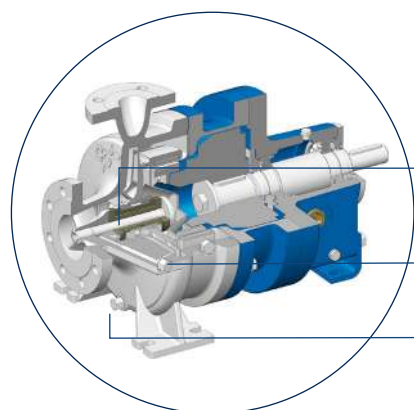


ET – CERAMIC Lined
300 m³/h – 70 mcl ; – 20 à + 150°C ;
High abrasion/corrosion resistance ;
DIN EN ISO 2858, 5199 and 15783 ;
Special configurations on request.

THE CHEMICAL INDUSTRY

The **UNIQUE** concept of the **INVERSE** magnetic drive pumps of the MKP series offers a lot of advantages over conventional construction on complicated applications and moreover its maintenance is simplified.

MKP without heating jacket

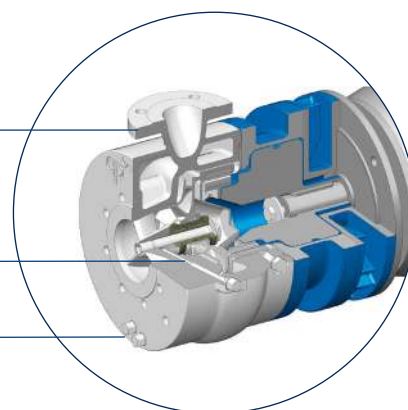


Available bearings in
SSIC, TUC, ADLC, FuturaSafe.

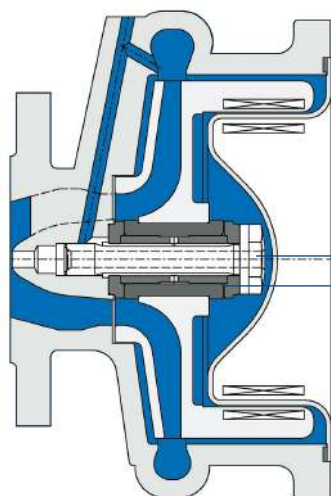
Optimum bearing lubrication,
by internal OR external recirculation.

No dead zone.
Drain at the low point

MKP with heating jacket



Pump material available
Stainless steel, Uranus B6,
Hastelloy, Nickel, Titanium.

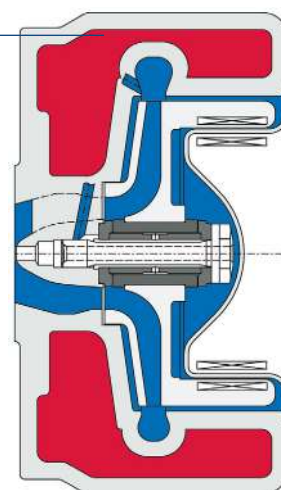


Easy maintenance.
Dismantling by a single shaft.

The central arrangement of the bearing greatly reduces the forces. The elimination of the bearing support and dead zone allow the pumping of liquids with particles (Max. 30% - 1mm).

Heating jacket
for the entire pump.

Thermocouple placed upright
the most sensitive to protect
the pump (patented system).



Anti-vortex **Containment shell**, with insulation or double with leakage monitoring.

Available materials : **Hastelloy, Titanium, Stainless steel, ceramic and HP plastic.**



Large section metal support
for increased robustness.

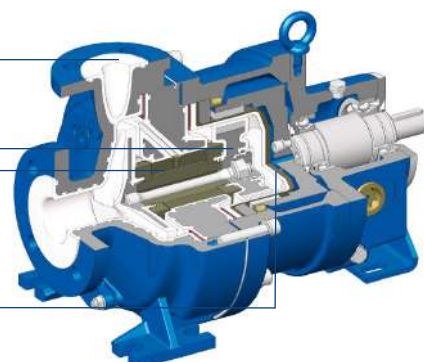
Semi-open impeller.
No wear ring.

Minimum 5 à 7 mm of PFA

Easy maintenance.
Each part is independent

Oversized bearing.
Shaft sleeve diameter, min. 35 mm.
Only 4 pieces in SSIC.

Separate Containment shell



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